

What is claimed is:

1 1. A top-emission organic electro-luminescent display
2 (OLED) comprising:

3 a substrate having at least an anode layer, an organic
4 fluorescent film, at least a cathode layer, a barrier layer and
5 a protection layer; and

6 a transparent sealing structure glued to the top of the
7 substrate;

8 wherein, the transparent sealing structure comprises an
9 adhesion layer glued to the protection layer, a plurality of
10 organic resin layers formed on the adhesion layer, a plurality
11 of inorganic barrier layers disposed between the organic resin
12 layers, a flexible polymer film formed on the organic resin
13 layer, and a hard coat formed on the flexible polymer film.

1 2. The top-emission OLED according to claim 1, wherein the
2 top-emission OLED is a passive matrix type.

1 3. The top-emission OLED according to claim 1, wherein the
2 top-emission OLED is an active matrix type.

1 4. The top-emission OLED according to claim 1, wherein the
2 cathode layer uses transparent conductive materials.

1 5. The top-emission OLED according to claim 1, wherein the
2 barrier layer uses transparent inorganic materials.

1 6. The top-emission OLED according to claim 5, wherein the
2 barrier layer is formed by plasma enhanced chemical vapor
3 deposition (PECVD).

1 7. The top-emission OLED according to claim 1, wherein the

2 protection layer uses transparent organic materials.

1 8. The top-emission OLED according to claim 1, wherein the
2 inorganic barrier layer of the sealing structure is selected
3 from one of the group consisting of SiC, SiO₂, Si₃N₄ and Al₂O₃.

1 9. The top-emission OLED according to claim 1, wherein the
2 inorganic barrier layer of the sealing structure is formed by
3 plasma enhanced chemical vapor deposition (PECVD).

1 10. The top-emission OLED according to claim 1, wherein the
2 hard coat of the sealing structure is selected from one of the
3 group consisting of hardened coating, anti-reflective coating,
4 and 1/4 λ polarizer.

1 11. A method of sealing a top-emission organic electro-
2 luminescent display (OLED), comprising steps of:

3 providing a substrate which has at least an anode layer,
4 an organic fluorescent film, at least a cathode layer, a barrier
5 layer and a protection layer; and

6 providing a transparent sealing structure which has a
7 plurality of organic resin layers, a plurality of inorganic
8 barrier layers disposed between the organic resin layers, a
9 flexible polymer film formed on the organic resin layer, and
10 a hard coat formed on the flexible polymer film; and

11 providing an adhesion layer to glue the bottom of the
12 sealing structure to the protection layer of the substrate.

1 12. The method according to claim 11, wherein the adhesion
2 layer is formed at the bottom of the sealing structure.

1 13. The method according to claim 11, wherein the adhesion
2 layer is formed on the top of the substrate.

- 1 14. The method according to claim 11, wherein the sealing
- 2 structure is glued to the top of the substrate by a roll-press
- 3 manner.

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